

### REMARKS

Favorable reconsideration of this application in light of the preceding remarks and the following discussion is respectfully requested.

No claims having been cancelled or added, the Applicants respectfully submit that claims 1-20 remain properly under consideration in this application. The present response includes Amendments to certain of the paragraphs of the Specification and various of the claims to address various antecedent issues identified in the Action. The Amendments to the Claims reflected above show the amended claims in marked-up form in accordance with 37 C.F.R. § 1.121.

#### Objections to the Drawings

The Drawings stand objected to under 37 C.F.R. § 1.83(a). With respect to the stand-off elements, the Applicants respectfully suggest that illustrated holding mechanisms 70, “which may comprise only fixed or manually adjustable stand-ff contacts,” paragraph [0027], and vacuum elements, FIG. 6C, reference numeral 80, are sufficiently illustrated and described in the specification as amended above to overcome this objection.

A new FIG. 14 has been added to illustrate the relationship between a controller used to control the movement of the sensor assembly and a signal generated by the sensor transmitted to a receiver. The Applicants respectfully submit that FIG. 14 merely illustrates the relationship among these elements that would have been understood to exist by one of ordinary skill in the art based on the initial disclosure and does not, therefore, constitute the introduction of new matter.

Further, as indicated above, paragraph [0036] has been amended to remove the reference to sensor 102 in conjunction with FIG. 10B, which is, in any event, shown in more detail in FIG. 11A, and that no correction to FIG. 10B is necessary.

The Applicants respectfully submit, therefore, that the objections to the Drawings have been overcome and request that this objection be withdrawn.

#### Objections to the Specification

The Specification stands objected to as failing to provide proper antecedent basis for language incorporated in claims 7-9, 15, 18 and 19.

The Applicants respectfully submit that paragraph [0036] and claim 7, as amended above, provide appropriate antecedent basis for the recited dimensions and dimensional ratio of the annual space and “target separation distance” between the sensor head and the scanned surface. The Applicants respectfully submit that those of ordinary skill in the art would appreciate that depending on the sensor type and configuration, the spacing between that the sensor head and the scanned surface, *i.e.*, the “target separation distance,” must be maintained within a range in order to obtain a satisfactory scan. The Applicants respectfully submit that claims 8 and 9, like claim 7, are supported by paragraph [0036] as amended above.

With respect to claim 15, the Applicants respectfully submit that those of ordinary skill in the art would appreciate that the objective of the claimed inspection method is to insure the structural integrity of a RPV or similar apparatus, that the sensors will be selected to examine some property of the apparatus and will generate a signal corresponding to that property and that this signal must be received and evaluated to

complete the inspection. The Applicants respectfully contend that the addition of FIG. 14 and the amendments to paragraph [0037] reflected above, are consistent with the understanding of one of ordinary skill in light of the original disclosure, do not, therefore, constitute the introduction of new matter and are sufficient to overcome this objection.

With respect to claim 18, the Applicants respectfully contend that the “deflected position” is illustrated in FIG. 4A and described in paragraph [0028] as amended above and request that this objection be withdrawn.

With respect to claim 19, the Applicants respectfully contend that the amendment of “protective orientation” to “protected orientation” reflected above is supported by paragraph [0033] and FIG. 8A, and request that this objection be withdrawn.

With respect to claims 9, 10, 15 and 18, the Applicants respectfully submit that the amendments to the claims reflected above are sufficient to remedy the noted informalities and request that this objection be withdrawn.

Rejections Under 35 U.S.C. § 112, second paragraph

Claims 1-11 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The Applicants respectfully submit that the amendments to the claims reflected above are sufficient to overcome these rejections and requests that they be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Claims 1, 3, 10, 12-14, 16 and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Shirasu et al.'s U.S. Patent No. 4,744,251 ("Shirasu"). The Applicants respectfully traverse this rejection.

The Applicants respectfully contend that, as disclosed by Shirasu, the beam 4 cannot fairly be characterized as the claimed "a generally arcuate frame defining an opening" along which the claimed "carrier" moves and does not incorporate any "holding mechanism" for establishing the position of the frame relative to the scanned surface. The Applicants respectfully contend that Shirasu's grippers 16 are not equivalent to the claimed "connector" and appear to be wholly unrelated to any pivotal movement of the beam 4. FIGS. 3 and 4 and associated text.

The Applicants also respectfully contend that the apparatus taught by Shirasu is not configured in a way that would permit the claimed scanning of "an obstructed circumferential portion." Indeed, the Applicants respectfully suggest that the grippers 16, would prevent the scanning of welds positioned within recesses and, in practice, would prevent that scanning lower portions of a tube by limiting the downward movement of the sensors 5. *preamble*

The Applicants respectfully contend that there is no teaching or suggestion has been identified that supports the conclusion, Action at 6, that Shirasu's rotating motor 39 is capable of imparting any motion to the sensor other than simple rotation of the beam 4. Absent some identification of some element in a sensor assembly (rather than a motor within support frame 3) that would provide for motion of the sensor relative to the beam, the Applicants respectfully contend that this rejection should be withdrawn. The *ASK I think claim 6*

Applicants also respectfully contend that there is no indication that rotating motor 39 provides for any motion of the sensor 5 relative to the beam 4, and thus cannot provide the motions recited in claims 3 and 10. *Keep*

The Applicants respectfully contend that Shirasu's rail 1, *i.e.*, the support, has a longitudinal axis that is perpendicular, rather than parallel, to the longitudinal axis of the cylindrical object and that Shirasu's "support" 3 is actually a "connector" arranged between the rail 1 and the beam 4. The Applicants further contend that Shirasu, as noted above, does not provide any teaching or suggestion regarding the examination of obstructed surfaces and, in fact, has a structure that would prevent the inspection of surfaces arranged within the narrow spaces addressed by the present invention.

*Find out what he means*

The Applicants respectfully submit that no motivation has been identified in Shirasu that would lead one of ordinary skill in the art to depart from the teachings of Shirasu in a manner that would produce the claimed apparatus. The Applicants, therefore, respectfully request that this rejection be withdrawn.

#### Allowable Subject Matter

The Applicants note with appreciation the Examiner's indication that claims 15, 18 and 19 would be allowable if rewritten to remove their dependence from a rejected base claim and that claim 20 is allowed. For the reasons detailed above, however, the Applicants respectfully submit that the claims as originally filed or as amended above are patentable over the applied prior art reference.

### CONCLUSION

In view of the above remarks and amendments, the Applicants respectfully submit that each of the pending objections and rejections have been addressed and overcome, leaving the present application in condition for allowance. A Notice to that effect is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

HARNESS, DICKEY & PIERCE, P.L.C.

By:

  
\_\_\_\_\_  
Gregory P. Brummett  
Reg. No. 41,646

P.O. Box 8910  
Reston, VA 20195  
(703) 668-8000

GPB